

*Research Article*

# The Relationship between Knowledge about Natural Pain Management and the Anxiety of Third Trimester Pregnant Women in Facing Childbirth at the Jatirogo Community Health Center

**Sulastri** <sup>1,\*</sup>, **Retno Dewi Prisusanti** <sup>2</sup><sup>1</sup> Puskesmas Jatirogo, Central Jember, Indonesia; email: [azzahrahsulastri@gmail.com](mailto:azzahrahsulastri@gmail.com)<sup>3</sup> Institut Teknologi Sains dan Kesehatan Rumah Sakit dr. Soepraoen Malang, Indonesia; email: [retnodewi@itsk-soepraoen.ac.id](mailto:retnodewi@itsk-soepraoen.ac.id)\* Corresponding Author: [azzahrahsulastri@gmail.com](mailto:azzahrahsulastri@gmail.com)

**Abstract:** The third trimester of pregnancy is a phase prone to anxiety due to physical and psychological changes and preparation for childbirth. Knowledge of pregnant women plays an important role in shaping mental readiness and reducing anxiety. This study aims to determine the relationship between knowledge levels and anxiety levels of pregnant women in the third trimester. The study used a quantitative correlational approach with 24 respondents selected through accidental sampling technique at Jatirogo Community Health Center, Central Kalimantan. Data were collected using a closed questionnaire and analyzed univariately and bivariately using the Chi-Square test. The results showed that 41.7 % of respondents had good knowledge and 66.7% did not experience anxiety. The Chi-Square test produced a significance value of  $p = 0.018$ , indicating a significant relationship between knowledge levels and anxiety of pregnant women. In conclusion, the higher the level of knowledge, the lower the anxiety experienced by pregnant women in the third trimester.

**Keywords:** Anxiety; Chi-Square Test; Level of Knowledge; Pregnant Women; Third Trimester.

## 1. Introduction

Pregnancy is a physiological process experienced by women worldwide. This period is crucial and vulnerable in a woman's life, as various physical, psychological, and social changes occur that significantly increase emotional and physical needs. Pregnancy is considered a sensitive phase that can trigger various changes in the mother's body and psychological state (Mohebi et al., 2018). Entering the third trimester, pregnant women generally begin to experience various transformations, both physically and psychologically. Anxiety is one psychological response that often arises before the birth process (Hikmah et al., 2019). This condition is generally more intense for pregnant women experiencing their first pregnancy, as they have no previous birth experience and must prepare themselves for their new role as parents.

Based on data from the World Health Organization (WHO) in 2019, the number of maternal deaths globally reached 303,000. In the Southeast Asia region, the Maternal Mortality Rate (MMR) was recorded at 235 per 100,000 live births (ASEAN Secretariat, 2020). In Indonesia, according to the Indonesian Demographic and Health Survey (SDKI), the MMR increased from 228 per 100,000 live births in the 2002–2007 period to 359 per 100,000 live births in the 2007–2012 period. However, in 2012–2015 there was a decrease to 305 per 100,000 live births. Indirect factors causing this high maternal mortality rate include three delays: late recognition of danger signs and decision-making, late arrival at a health facility, and late access to treatment at a health facility (Ministry of Health of the Republic of Indonesia, 2019).

**Received:** April 27, 2025**Revised:** June 13, 2025**Accepted:** August 28, 2025**Published:** October 31, 2025**Curr. Ver.:** October 31, 2025**Copyright:** © 2025 by the authors.

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Anxiety during pregnancy is a natural response to change and uncertainty, typically triggered by factors such as physiological changes, fetal health, pain during labor, adjustment to parenthood, concerns about the availability of birth attendants, social and economic support, and the risk of complications, including death. Fear of childbirth is often a major contributing factor to anxiety, especially in women with no previous experience of childbirth. If not managed properly, excessive anxiety can significantly disrupt a pregnant woman's daily activities and negatively impact self-confidence (Hikmah et al., 2019).

Anxiety in pregnant women generally increases as the pregnancy progresses, particularly as the third trimester approaches and labor approaches. During this time, mothers begin to face various concerns related to their physical and emotional well-being. Anxiety can arise from uncertainty about the baby's condition at birth, such as whether the baby will be healthy and normal, concerns about the pain that will be experienced during labor, and fears of possible complications during delivery. Furthermore, pregnant women often feel anxious about their ability to endure labor and adapt to their new role as parents. These feelings are generally more prevalent in first pregnancies, as there is no previous experience, leading to greater uncertainty and fear. As labor approaches, this anxiety can increase and impact the mother's psychological well-being (Angesti, 2020).

Knowledge is the result of cognitive processes that play a vital role in shaping a person's attitudes and actions. This process encompasses the ability to remember, think, understand symbols, reason, and solve problems personally (Uliarta Marbun, 2019). In the context of pregnancy and childbirth, a mother's knowledge of the birthing process significantly influences her mental and emotional readiness. Childbirth itself is a physiological process in which the fetus, placenta, and amniotic membranes are expelled from the uterus through the birth canal, either with the assistance of health workers or naturally without medical intervention (Ilmiah, 2015; Saefudin, 2002). This process usually occurs after full-term pregnancy and occurs gradually, starting with cervical dilation, marked by the discharge of mucus mixed with blood or bloody show, followed by contractions and the expulsion of the baby (Mochta, 1998; Aspiani, 2017).

The length of labor varies, generally ranging from 6 to 18 hours for first-time mothers (primiparas) and 2 to 10 hours for mothers who have given birth before (multiparas). Childbirth is also a natural process that can generally proceed without complications if the mother's physical condition is favorable. However, not all women are mentally prepared for this process, as labor is associated with pain, discomfort, and bleeding, which can cause anxiety, especially for mothers who have never experienced it before (Bari, 2002; Riska Safitri, 2019).

## 2. Research Method

This research is a quantitative research with a correlation approach, which aims to determine the existence or absence of a relationship and the degree of relationship between two or more variables (Sukardi, 2016). The research was conducted at the Jatirogo Community Health Center, Central Jember. The population in this study were all pregnant women who visited during the period April to Agustus 2025, totaling 42 people. The sampling technique used the accidental sampling method with a sample size of 24 respondents. The research instrument used a closed questionnaire compiled based on the indicators of each variable. The collected data were analyzed through two stages, namely univariate analysis to describe the frequency and percentage distribution, and bivariate analysis using the Chi-Square ( $\chi^2$ ) test to determine the relationship between the independent and dependent variables.

## 3. Results and Discussion

### 3.1. Results

**Table 1.** Frequency Distribution of Knowledge Level of Pregnant Women in the Third Trimester

Knowledge	Frequency (n)	Percentage (%)
Good	10	41.7
Enough	8	33.3
Not enough	6	25
<b>Total</b>	<b>24</b>	<b>100</b>

Table 1, obtained from 24 respondents, shows that the majority of respondents, namely 10 people (41.7%), have knowledge in the good category. Furthermore, there are 8 respondents (33.3 %) with a sufficient level of knowledge, and 6 respondents (25%) have insufficient knowledge. The most knowledge category is the good category with a total of 10 respondents (41.7 %).

**Table 2.** Frequency Distribution of Anxiety in Pregnant Women in the Third Trimester.

Anxiety	Frequency (n)	Percentage (%)
<b>Worried</b>	8	33.3
<b>No Worries</b>	16	66.7
<b>Total</b>	24	100

Table 2 shows that out of 24 respondents, 8 (33.3%) experienced anxiety, while 16 (66.7%) did not. The majority of respondents, 16 (66.7 %), fell into the category of not experiencing anxiety.

**Table 3.** Relationship between the Level of Knowledge of Pregnant Women in the Third Trimester and Anxiety in Facing Childbirth at the Jatirogo Community Health Center in 2025.

Knowledge	Anxiety			
	Not Anxious (n)	Anxious (n)	Total (n)	Percentage (%)
<b>Good</b>	9	1	10	41.7
<b>Enough</b>	5	3	8	33.3
<b>Not enough</b>	2	4	6	25
<b>Total</b>	16	8	24	100

Based on the analysis results in Table 3, of the total 24 respondents, it is known that of the 10 respondents who had good knowledge (41.7%), 9 people did not experience anxiety and 1 person experienced anxiety. Of the 8 respondents with sufficient knowledge (33.3 %), there were 5 respondents who did not experience anxiety and 3 respondents experienced anxiety. Meanwhile, of the 6 respondents who had insufficient knowledge (25%), 2 people did not experience anxiety and 4 people experienced anxiety. The highest level of anxiety based on the level of knowledge was found in respondents with insufficient knowledge, namely 4 people.

### 3.2. Discussion

This study found that of the 24 respondents, 10 (41.7%) had good knowledge, 8 (33.3%) had adequate knowledge, and 6 (25%) had insufficient knowledge. These results indicate that most pregnant women have a fairly good understanding of pregnancy information. Good knowledge can be obtained through formal education, previous pregnancy experiences, and access to health information from medical personnel or the media. The high level of knowledge among most respondents indicates positive potential for facing pregnancy with greater preparedness and calm.

A person's level of education plays a crucial role in enhancing their understanding of health, including during pregnancy. The higher a person's education, the more likely they are to have a broader understanding of pregnancy and the various changes that occur during pregnancy, and are better able to utilize available health services. Pregnant women with higher education tend to have a better understanding of their pregnancy and are more skilled at managing any anxiety that arises. Research shows that individuals with higher education tend to respond more logically and rationally than those with lower or no education (Hasim, 2018).

A pregnant woman's knowledge about childbirth also promotes physical and psychological preparedness for the process. From the time of conception, a mother will be more careful about her health, realizing that her pregnancy status will affect the smoothness of her delivery. With careful planning, a mother will feel calmer and more prepared for the

birth process, having prepared for it early. This preparedness is a crucial factor in ensuring a safe, planned delivery and reducing the risk of complications.

Furthermore, data showed that of the 24 respondents, 16 (66.7%) did not experience anxiety, while 8 (33.3%) did. This indicates that the majority of pregnant women are emotionally stable. However, one-third of the respondents experienced anxiety, which is a cause for concern. Anxiety in pregnant women can be influenced by various factors, such as lack of social support, unpreparedness for childbirth, or health conditions during pregnancy.

Purwaningsih (2020) revealed that several studies have shown improved family functioning, accompanied by increased social support from the family environment. Positive support from a husband is known to maintain and protect a mother's mental health during pregnancy. In addition to social factors, physical activity also plays a role in improving a pregnant woman's psychological well-being.

Research conducted by Davenport (2020) states that pregnant women who regularly engage in physical activity show significant improvements in mental health. While anxiety during pregnancy does not directly impact mortality, anxiety that occurs before delivery can cause feelings of anxiety and activate the autonomic nervous system's response to non-specific threats, which can ultimately hinder the labor process. Unmanaged anxiety during pregnancy can cause weak uterine contractions, resulting in a longer labor. This condition also increases the risk of uterine atony, tearing of the birth canal, bleeding, infection, excessive fatigue, and shock in the mother. Meanwhile, in infants, maternal anxiety can increase the risk of premature birth and low birth weight (LBW) (Hasim, 2018).

Childbirth readiness, or readiness to face the stages of pregnancy through to the birth process, is a form of maternal effort to prepare and maintain the continuity of pregnancy, the birth process, and healthy newborn care as part of improving the well-being of mothers and children (Herdman & Kamitsuru, 2018). According to Lestari (2011), comprehensive preparation by pregnant women can help the delivery process take place safely and healthily. However, this readiness can also be influenced by the mother's psychological condition, where mothers tend to focus too much on a particular aspect and prepare everything excessively, thus neglecting other things that are also important. As a result, this can leave the mother not fully prepared to face the entire birth process.

This study also found a relationship between the level of knowledge and the level of anxiety experienced. Of the 10 respondents with good knowledge, 9 people (90%) did not experience anxiety and only 1 person (10%) experienced anxiety. In the group with sufficient knowledge, 5 people (62.5 %) were not anxious and 3 people (37.5%) experienced anxiety. Meanwhile, of the 6 respondents with insufficient knowledge, 4 people (66.7 %) experienced anxiety and only 2 people (33.3%) were not anxious. The results of the analysis using the Chi Square test showed a significance value of 0.018, which is smaller than the significance limit of 0.05 . Thus, it can be concluded that there is a significant relationship between the level of knowledge of pregnant women and the level of anxiety they experience.

The findings of this study align with those of Naha and Handayani (2018), which showed that the majority of pregnant women in their third trimester at Umbulharjo I Community Health Center in Yogyakarta were well prepared for childbirth, with 18 (52.9%) reporting a high level of preparedness. Meanwhile, 12 (35.3%) were considered adequately prepared, while 4 (11.8%) were considered less prepared. Readiness itself can be defined as a state of physical and mental preparedness experienced by individuals and groups to achieve specific goals. This readiness encompasses physical, psychological, and emotional aspects. Thorough planning for the birth process will help reduce unpreparedness and anxiety during childbirth, while increasing the mother's chances of receiving appropriate and timely healthcare.

#### 4. Conclusion

This study showed that the majority of pregnant women had a good level of knowledge (41.7 %) and did not experience anxiety (66.7%). The results of the Chi-Square test showed a significant relationship between knowledge and anxiety levels in pregnant women ( $p = 0.018$ ). The better the knowledge of pregnant women, the lower the level of anxiety they experienced. Optimal health education about pregnancy is important to help reduce anxiety during pregnancy.

## References

Agesti, E. P. (2020). *The relationship between anxiety levels of third trimester pregnant women and readiness to face childbirth during the COVID-19 pandemic in Surabaya*.

Aspiani, R. Y. (2017). *Textbook of maternity nursing care: Application of NANDA, NIC, and NOC*. CV Trans Info Media.

Davenport, M. H., Meyer, S., Meah, V. L., Strynadka, M. C., & Khurana, R. (2020). Moms are not OK: COVID-19 and maternal mental health. *Frontiers in Global Women's Health*, 1, 1–6. <https://doi.org/10.3389/fgwh.2020.00001>

Fitri, S. R., Lestari, B. C., Indriana, N. P. R. K., Meiranny, A., Hasyim, D. I., Saputri, N., & Prisusanti, R. D. (2024). *Asuhan kebidanan neonatus: Bayi balita dan anak prasekolah berbasis evidence based practice*. PT Sonpedia Publishing Indonesia.

Guyton, A. C., & Hall, J. E. (2002). End-of-pregnancy changes and labor mechanism. In *Textbook of medical physiology*. HarperCollins.

Harini, I. G. A. D., Yuliyatni, P. C. D., & Sucipta, W. C. W. P. (2022). The level of anxiety of pregnant women during the COVID-19 pandemic in Denpasar City, Bali. *E-Jurnal Medika Udayana*, 11(2). <https://doi.org/10.24843/MU.2022.V11.i02.P03>

Hasim, R. P. (2018). *Description of anxiety in pregnant women* (Publication manuscript, pp. 1–18).

Herdman, T. H., & Kamitsuru, S. (2018). *Nursing diagnoses: Definitions and classification* (11th ed.).

Hikmah, N., Yuliani, I., & Kesehatan Kemenkes Malang, P. (2019). Self-efficacy of pregnant women in trimester III with anxiety level in facing labor. *Indonesian Health Information Journal*, 5(2), 123–132. <https://doi.org/10.31290/jiki.v5i2.1381>

Kementerian Kesehatan Republik Indonesia. (2019). *Indonesian health profile 2019*. [https://doi.org/10.5005/jp/books/11257\\_5](https://doi.org/10.5005/jp/books/11257_5)

Lestari, A. T. (2020). *Breast care management for breast milk flow in term pregnant women as an effort to prepare for lactation* (Doctoral dissertation, Poltekkes Tanjungkarang).

Mochta, R. (2002). *Synopsis of obstetrics*. EGC Medical Books.

Mohebi, S., Parham, M., Sharifirad, G., & Gharlipour, Z. (2018). Social support and self-care behavior study. <https://doi.org/10.4103/jehp.jehp>

Naha, M. K., & Handayani, S. (2018). The relationship between pregnant women's knowledge about childbirth and their readiness to face childbirth in the third trimester at Umbulharjo I Community Health Center, Yogyakarta. *Samodra Ilmu Health Journal*, 9(2), 158–168.

Nurhayati, S., Utami, I. T., Immawati, I., et al. (2023). The relationship between spiritual support and anxiety levels of pregnant women in the third trimester during the COVID-19 pandemic. *Journal of Health Discourse*, Article 284.

Palupi, F. H., Arismawati, D. F., Tumenggung, I., & Pudyastuti, R. R., et al. (2023). *Ilmu kesehatan masyarakat*. CV Rey Media Grafika.

Prisusanti, R. D. (2022). *Ilmu komunikasi dan statistik*.

Prisusanti, R. D. (2022). *Pendidikan ilmu kebidanan*.

Putri, R. D., Asri, M., & Ratna, P. (2022). The relationship between knowledge and anxiety of pregnant women approaching childbirth during the COVID-19 pandemic. *Malahayati Midwifery Journal*, 7(3).

Scientific, W. S. (2015). *Textbook of normal delivery care*. Nuha Medika.

Setyorini, D., Putri, K. M., Danti, R. R., Putri, N. R. B., & Kep, M., et al. (2023). *Bunga rampai keperawatan maternitas dan keluarga berencana*. PT KIMHSAFI ALUNG CIPTA.